

Scientific Questions for Scientific Thinkers

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

Intellectual Development Foundation

Preface

This piece of writing is a guide which consists of generic scientific questions for scientific thinkers. These generic questions are based on the properties which allow us to study anything systematically. The generic questions can guide students to study anything systematically. For teachers, this provides a Simple Unified Instructional System to guide students to study anything systematically. For students, this is a scientific thinking supplement to any textbook for any science course. Teachers can use this to design science instruction, assignments, and tests. Students can use this to improve their perspective in any domain of science.

Generic scientific thinking skills apply to all sciences. For example, scientific thinkers are clear as to the purpose at hand and the question at issue. They question information, conclusions, and points of view. They strive to be accurate, precise, and relevant. They seek to think beneath the surface, to be logical, and objective. They apply these skills to their reading and writing as well as to their speaking and listening. They apply them in professional and personal life.

When this guide is used as a supplement to the science textbook in multiple courses, students begin to perceive the application of scientific thinking to many domains in everyday life. And if their instructors provide examples of the application of scientific thinking to daily life, students begin to see scientific thinking as a tool for improving the quality of their lives.

If you are a student using this guide, get in the habit of carrying it with you to every science class. Consult it frequently in analyzing and synthesizing what you are learning. Aim for deep internalization of the principles you find in this - until using them becomes second nature.

If successful, this guide will serve faculty, students, and the science program simultaneously. This work is based on the *Simple Unified Instructional System* developed by Intellectual Development Foundation. This piece of writing is not organized into chapters. Every page illustrates how the generic questions are applicable to different things.

Excellence in scientific thinking must be cultivated systematically.

What properties of DNA allow us to study it systematically?

Listed below are the properties of DNA which allow us to study it systematically.

1. Divisibility

Can DNA exhibit divisibility? Yes. DNA has divisibility and it can be divided into things called the parts of DNA.

- What are the parts of DNA?

2. Comparability

Can DNA exhibit comparability? Yes. DNA has comparability and it can be compared to all the other things. Anything which cannot be compared to DNA is neither different nor similar to DNA.

- What is that which is neither different nor similar to DNA?

3. Connectivity

Can DNA exhibit connectivity? Yes. DNA has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to DNA?

4. Disturbability

Can DNA exhibit disturbability? Yes. DNA has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect DNA?

5. Reorderability

Can DNA exhibit reorderability? Yes. DNA has reorderability and it can be reordered from one form to its other forms.

- What forms are not of DNA?

6. Substitutability

Can DNA exhibit substitutability? Yes. DNA has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute DNA?

7. Satisfiability

Can DNA exhibit satisfiability? Yes. DNA has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by DNA?



Hai! You know well about DNA, but do you have the knowledge to answer the questions about DNA?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of RNA allow us to study it systematically?

Listed below are the properties of RNA which allow us to study it systematically.

1. Divisibility

Can RNA exhibit divisibility? Yes. RNA has divisibility and it can be divided into things called the parts of RNA.

- What are the parts of RNA?

2. Comparability

Can RNA exhibit comparability? Yes. RNA has comparability and it can be compared to all the other things. Anything which cannot be compared to RNA is neither different nor similar to RNA.

- What is that which is neither different nor similar to RNA?

3. Connectivity

Can RNA exhibit connectivity? Yes. RNA has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to RNA?

4. Disturbability

Can RNA exhibit disturbability? Yes. RNA has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect RNA?

5. Reorderability

Can RNA exhibit reorderability? Yes. RNA has reorderability and it can be reordered from one form to its other forms.

- What forms are not of RNA?

6. Substitutability

Can RNA exhibit substitutability? Yes. RNA has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute RNA?

7. Satisfiability

Can RNA exhibit satisfiability? Yes. RNA has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by RNA?



Hai! You know well about RNA, but do you have the knowledge to answer the questions about RNA?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of protein allow us to study it systematically?

Listed below are the properties of protein which allow us to study it systematically.

1. Divisibility

Can protein exhibit divisibility? Yes. Protein has divisibility and it can be divided into things called the parts of protein.

- What are the parts of protein?

2. Comparability

Can protein exhibit comparability? Yes. Protein has comparability and it can be compared to all the other things. Anything which cannot be compared to protein is neither different nor similar to protein.

- What is that which is neither different nor similar to protein?

3. Connectivity

Can protein exhibit connectivity? Yes. Protein has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to protein?

4. Disturbability

Can protein exhibit disturbability? Yes. Protein has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect protein?

5. Reorderability

Can protein exhibit reorderability? Yes. Protein has reorderability and it can be reordered from one form to its other forms.

- What forms are not of protein?

6. Substitutability

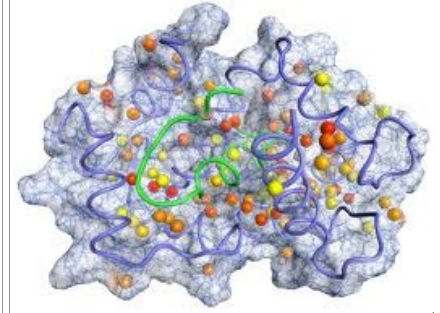
Can protein exhibit substitutability? Yes. Protein has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute protein?

7. Satisfiability

Can protein exhibit satisfiability? Yes. Protein has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by protein?



Hai! You know well about protein, but do you have the knowledge to answer the questions about protein?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of gene allow us to study it systematically?

Listed below are the properties of gene which allow us to study it systematically.

1. Divisibility

Can gene exhibit divisibility? Yes. Gene has divisibility and it can be divided into things called the parts of gene.

- What are the parts of gene?

2. Comparability

Can gene exhibit comparability? Yes. Gene has comparability and it can be compared to all the other things. Anything which cannot be compared to gene is neither different nor similar to gene.

- What is that which is neither different nor similar to gene?

3. Connectivity

Can gene exhibit connectivity? Yes. Gene has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to gene?

4. Disturbability

Can gene exhibit disturbability? Yes. Gene has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect gene?

5. Reorderability

Can gene exhibit reorderability? Yes. Gene has reorderability and it can be reordered from one form to its other forms.

- What forms are not of gene?

6. Substitutability

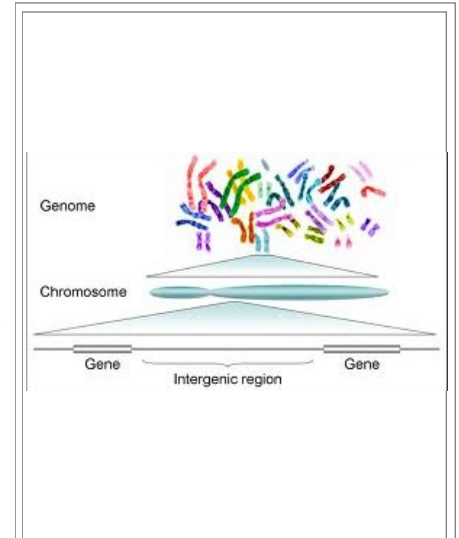
Can gene exhibit substitutability? Yes. Gene has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute gene?

7. Satisfiability

Can gene exhibit satisfiability? Yes. Gene has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by gene?



Hai! You know well about gene, but do you have the knowledge to answer the questions about gene?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of adenine allow us to study it systematically?

Listed below are the properties of adenine which allow us to study it systematically.

1. Divisibility

Can adenine exhibit divisibility? Yes. Adenine has divisibility and it can be divided into things called the parts of adenine.

- What are the parts of adenine?

2. Comparability

Can adenine exhibit comparability? Yes. Adenine has comparability and it can be compared to all the other things. Anything which cannot be compared to adenine is neither different nor similar to adenine.

- What is that which is neither different nor similar to adenine?

3. Connectivity

Can adenine exhibit connectivity? Yes. Adenine has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to adenine?

4. Disturbability

Can adenine exhibit disturbability? Yes. Adenine has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect adenine?

5. Reorderability

Can adenine exhibit reorderability? Yes. Adenine has reorderability and it can be reordered from one form to its other forms.

- What forms are not of adenine?

6. Substitutability

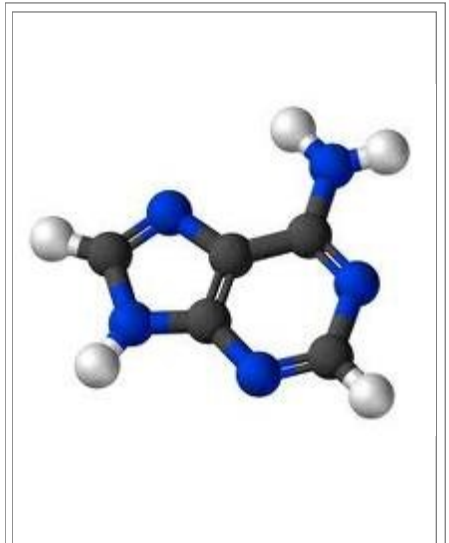
Can adenine exhibit substitutability? Yes. Adenine has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute adenine?

7. Satisfiability

Can adenine exhibit satisfiability? Yes. Adenine has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by adenine?



Hai! You know well about adenine, but do you have the knowledge to answer the questions about adenine?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of guanine allow us to study it systematically?

Listed below are the properties of guanine which allow us to study it systematically.

1. Divisibility

Can guanine exhibit divisibility? Yes. Guanine has divisibility and it can be divided into things called the parts of guanine.

- What are the parts of guanine?

2. Comparability

Can guanine exhibit comparability? Yes. Guanine has comparability and it can be compared to all the other things. Anything which cannot be compared to guanine is neither different nor similar to guanine.

- What is that which is neither different nor similar to guanine?

3. Connectivity

Can guanine exhibit connectivity? Yes. Guanine has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to guanine?

4. Disturbability

Can guanine exhibit disturbability? Yes. Guanine has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect guanine?

5. Reorderability

Can guanine exhibit reorderability? Yes. Guanine has reorderability and it can be reordered from one form to its other forms.

- What forms are not of guanine?

6. Substitutability

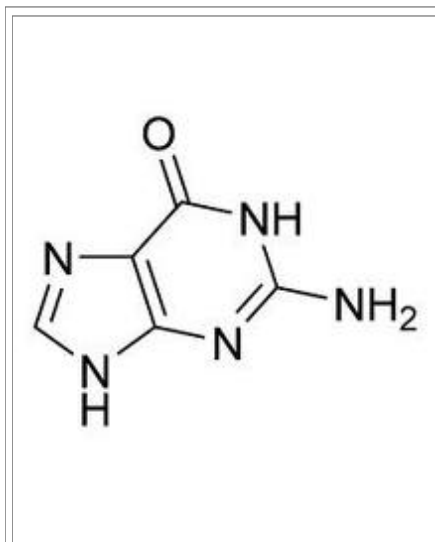
Can guanine exhibit substitutability? Yes. Guanine has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute guanine?

7. Satisfiability

Can guanine exhibit satisfiability? Yes. Guanine has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by guanine?



Hai! You know well about guanine, but do you have the knowledge to answer the questions about guanine?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of cytosine allow us to study it systematically?

Listed below are the properties of cytosine which allow us to study it systematically.

1. Divisibility

Can cytosine exhibit divisibility? Yes. Cytosine has divisibility and it can be divided into things called the parts of cytosine.

- What are the parts of cytosine?

2. Comparability

Can cytosine exhibit comparability? Yes. Cytosine has comparability and it can be compared to all the other things. Anything which cannot be compared to cytosine is neither different nor similar to cytosine.

- What is that which is neither different nor similar to cytosine?

3. Connectivity

Can cytosine exhibit connectivity? Yes. Cytosine has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to cytosine?

4. Disturbability

Can cytosine exhibit disturbability? Yes. Cytosine has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect cytosine?

5. Reorderability

Can cytosine exhibit reorderability? Yes. Cytosine has reorderability and it can be reordered from one form to its other forms.

- What forms are not of cytosine?

6. Substitutability

Can cytosine exhibit substitutability? Yes. Cytosine has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute cytosine?

7. Satisfiability

Can cytosine exhibit satisfiability? Yes. Cytosine has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by cytosine?



Hai! You know well about cytosine, but do you have the knowledge to answer the questions about cytosine?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of uracil allow us to study it systematically?

Listed below are the properties of uracil which allow us to study it systematically.

1. Divisibility

Can uracil exhibit divisibility? Yes. Uracil has divisibility and it can be divided into things called the parts of uracil.

- What are the parts of uracil?

2. Comparability

Can uracil exhibit comparability? Yes. Uracil has comparability and it can be compared to all the other things. Anything which cannot be compared to uracil is neither different nor similar to uracil.

- What is that which is neither different nor similar to uracil?

3. Connectivity

Can uracil exhibit connectivity? Yes. Uracil has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to uracil?

4. Disturbability

Can uracil exhibit disturbability? Yes. Uracil has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect uracil?

5. Reorderability

Can uracil exhibit reorderability? Yes. Uracil has reorderability and it can be reordered from one form to its other forms.

- What forms are not of uracil?

6. Substitutability

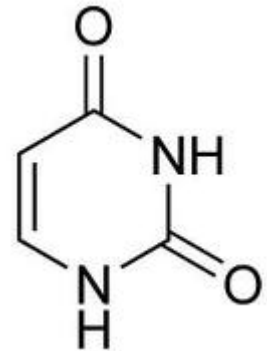
Can uracil exhibit substitutability? Yes. Uracil has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute uracil?

7. Satisfiability

Can uracil exhibit satisfiability? Yes. Uracil has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by uracil?



Hai! You know well about uracil, but do you have the knowledge to answer the questions about uracil?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of thymine allow us to study it systematically?

Listed below are the properties of thymine which allow us to study it systematically.

1. Divisibility

Can thymine exhibit divisibility? Yes. Thymine has divisibility and it can be divided into things called the parts of thymine.

- What are the parts of thymine?

2. Comparability

Can thymine exhibit comparability? Yes. Thymine has comparability and it can be compared to all the other things. Anything which cannot be compared to thymine is neither different nor similar to thymine.

- What is that which is neither different nor similar to thymine?

3. Connectivity

Can thymine exhibit connectivity? Yes. Thymine has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to thymine?

4. Disturbability

Can thymine exhibit disturbability? Yes. Thymine has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect thymine?

5. Reorderability

Can thymine exhibit reorderability? Yes. Thymine has reorderability and it can be reordered from one form to its other forms.

- What forms are not of thymine?

6. Substitutability

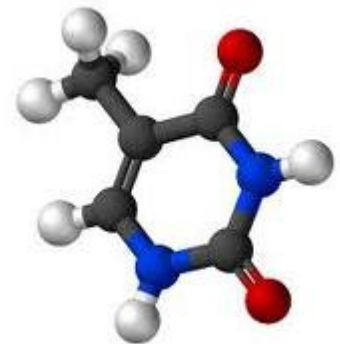
Can thymine exhibit substitutability? Yes. Thymine has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute thymine?

7. Satisfiability

Can thymine exhibit satisfiability? Yes. Thymine has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by thymine?



Hai! You know well about thymine, but do you have the knowledge to answer the questions about thymine?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?

What properties of restriction endonuclease allow us to study it systematically?

Listed below are the properties of restriction endonuclease which allow us to study it systematically-

1. Divisibility

Can restriction endonuclease exhibit divisibility? Yes. Restriction endonuclease has divisibility and it can be divided into things called the parts of restriction endonuclease.

- What are the parts of restriction endonuclease?

2. Comparability

Can restriction endonuclease exhibit comparability? Yes. Restriction endonuclease has comparability and it can be compared to all the other things. Anything which cannot be compared to restriction endonuclease is neither different nor similar to restriction endonuclease.

- What is that which is neither different nor similar to restriction endonuclease?

3. Connectivity

Can restriction endonuclease exhibit connectivity? Yes. Restriction endonuclease has connectivity and it can be connected to all the other things which hold it.

- What is that which cannot be connected to restriction endonuclease?

4. Disturbability

Can restriction endonuclease exhibit disturbability? Yes. Restriction endonuclease has disturbability and it can be disturbed (affected) by the things which can influence it.

- What is that which cannot affect restriction endonuclease?

5. Reorderability

Can restriction endonuclease exhibit reorderability? Yes. Restriction endonuclease has reorderability and it can be reordered from one form to its other forms.

- What forms are not of restriction endonuclease?

6. Substitutability

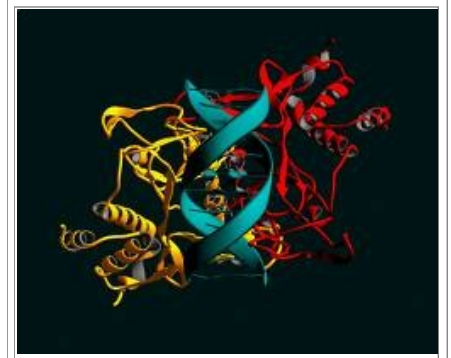
Can restriction endonuclease exhibit substitutability? Yes. Restriction endonuclease has substitutability and it can be substituted by the things which qualify to substitute it.

- What is that which cannot qualify to substitute restriction endonuclease?

7. Satisfiability

Can restriction endonuclease exhibit satisfiability? Yes. Restriction endonuclease has satisfiability and it can satisfy those which require it.

- What is that which cannot be satisfied by restriction endonuclease?



Hai! You know well about restriction endonuclease, but do you have the knowledge to answer the questions about restriction endonuclease?

What will you do if no thing has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability?



Anything which one can identify has divisibility, comparability, connectivity, disturbability, reorderability, substitutability, and satisfiability!